What is claimed is:

1. A method of treating a subject with a cancer or an infection, the method comprising administering to the subject an inhibitor of indoleamine-2,3-dioxygenase in an amount effective to reverse indoleamine-2,3-dioxygenase-mediated immunosuppression, and administering at least one additional therapeutic agent, wherein the administration of the inhibitor of indoleamine-2,3-dioxygenase and the at least one additional therapeutic agent demonstrate therapeutic synergy.

2. The method of claim 1, wherein the indoleamine-2,3-dioxygenase-mediated immunosuppression is meditated by an antigen presenting cell (APC).

3. The method of claim 1, wherein at least one additional therapeutic agent is an antineoplastic chemotherapy agent.

4. The method of claim 3, wherein the antineoplastic chemotherapeutic agent is selected from the group consisting of cyclophosphamide, methotrexate, fluorouracil, doxorubicin, vincristine, ifosfamide, cisplatin, gemcytabine, busulfan, ara-C, and combinations thereof.

5. The method of claim 1, wherein at least one additional therapeutic agent is radiation therapy.

6. The method of claim 5 wherein the radiation therapy is localized radiation therapy delivered to the tumor.

7. The method of claim 5 wherein the radiation therapy is total body irradiation.

8. The method of claim 1 wherein the inhibitor of indoleamine-2,3-dioxygenase is selected from the group of 1-methyl-tryptophan, β-(3-benzofuranyl)-alanine, β-(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan.

9. The method of claim 1 wherein the inhibitor of indoleamine-2,3-dioxygenase is 1-methyl-tryptophan.

10. The method of claim 1 wherein the inhibitor of indoleamine-2,3-dioxygenase is a D isomer of an inhibitor of indoleamine-2,3-dioxygenase

11. The method of claim 10 wherein the D isomer of an inhibitor of indoleamine-2,3-dioxygenase is selected from the group of the D isomer of 1-methyl-tryptophan, the D isomer of β-(3-benzofuranyl)-alanine, the D isomer of β-(3-benzo(b)thienyl)-alanine, and the D isomer of 6-nitro-D-tryptophan.

12. The method of claim 10 wherein the inhibitor of indoleamine-2,3-dioxygenase is the D isomer of 1-methyl-tryptophan.

13. The method of claim 1, wherein the cancer is selected from the group consisting of melanoma, colon cancer, pancreatic cancer, breast cancer, prostate cancer, lung cancer, leukemia, brain tumors, lymphoma, sarcoma, ovarian cancer, and Kaposi's sarcoma.

14. The method of claim 1, further comprising bone marrow transplantation or peripheral blood stem cell transplantation.

15. The method of claim 1, wherein the infection is selected from the group consisting of a viral infection, infection with an intracellular parasite, and infection with an intracellular bacteria.

16. The method of claim 15 wherein the viral infection is human immunodeficiency virus or cytomegalovirus.

17. The method of claim 15 wherein the intracellular parasite is selected from the group consisting of *Leishmania donovani, Leishmania tropica, Leishmania major, Leishmania*

aethiopica, Leishmania mexicana, Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, and *Plasmodium malariae*.

18. The method of claim 15 wherein the intracellular bacteria is selected from the group consisting of *Mycobacterium leprae, Mycobacterium tuberculosis, Listeria monocytogenes,* and *Toxplasma gondii.*

19. The method of claim 1 wherein at least one additional therapeutic agent is a vaccine.

20. The method of claim 19 wherein the vaccine is an anti-viral vaccine.

21. The method of claim 20 wherein the vaccine is against HIV.

22. The method of claim 19 wherein the vaccine is against tuberculosis.

23. The method of claim 19 wherein the vaccine is against malaria.

24. The method of claim 19 wherein the vaccine is a tumor vaccine.

25. The method of claim 24 wherein the tumor vaccine is a melanoma vaccine.

26. The method of claim 24 wherein the tumor vaccine comprises genetically modified tumor cells or genetically modified cell lines.

27. The method of claim 26 wherein the genetically modified tumor cells or genetically modified cell line have been transfected to express granulocyte-macrophage stimulating factor (GM-CSF).

28. The method of claim 19 wherein the vaccine comprises one or more immunogenic peptides.

29. The method of claim 24 wherein the tumor vaccine comprises dendritic cells.

30. The method of claim 1 wherein the additional therapeutic agent is a cytokine.

31. The method of claim 30 wherein the cytokine is granulocyte-macrophage colony stimulating factor (GM-CSF) or flt3-ligand.

32. A method of augmenting the rejection of tumor cells in a subject, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering at least one antineoplastic chemotherapeutic agent, wherein the rejection of tumor cells obtained by administering both the inhibitor of indoleamine-2,3-dioxygenase and the antineoplastic chemotherapeutic agent is greater than that obtained by administering either the inhibitor of indoleamine-2,3-dioxygenase or the antineoplastic chemotherapeutic agent alone.

33. A method of treating cancer, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering at least one antineoplastic chemotherapeutic agent, wherein cancer survival rate observed by administering both the inhibitor of indoleamine-2,3-dioxygenase and the antineoplastic chemotherapeutic agent is greater than the cancer survival rate observed by administering either the inhibitor of indoleamine-2,3-dioxygenase or the antineoplastic chemotherapeutic agent alone.

34. A method of reducing tumor size or slowing tumor growth, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering at least one antineoplastic chemotherapeutic agent, wherein the tumor size or tumor growth observed with the administration of both the inhibitor of indoleamine-2,3-dioxygenase and the antineoplastic chemotherapeutic agent is less than the tumor size or tumor growth observed with the administration of either the inhibitor of indoleamine-2,3-dioxygenase or the antineoplastic chemotherapeutic agent alone.

35. A method of augmenting rejection of tumor cells in a subject, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering radiation

therapy, wherein the rejection of tumor cells wherein the rejection of tumor cells obtained by administering both the inhibitor of indoleamine-2,3-dioxygenase and the radiation therapy is greater than that obtained by administering either the inhibitor of indoleamine-2,3-dioxygenase or the radiation therapy alone.

36. A method of treating cancer, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering radiation therapy, wherein the cancer survival rate observed by administering both the inhibitor of indoleamine-2,3-dioxygenase and radiation therapy is greater than the cancer survival rate observed by administering either the inhibitor of indoleamine-2,3-dioxygenase or radiation therapy alone.

37. A method of reducing tumor size or tumor growth, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering radiation therapy, wherein the tumor size or tumor growth observed with the administration of both the inhibitor of indoleamine-2,3-dioxygenase and radiation therapy is less than the tumor size or tumor growth observed with the administration of either the inhibitor of indoleamine-2,3-dioxygenase or radiation therapy alone.

38. A method of treating an infection, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase and administering at least one additional therapeutic agent, wherein a measurement of response to treatment observed after administering both the inhibitor of indoleamine-2,3-dioxygenase and the additional therapeutic agent is improved over the same measurement of response to treatment observed after administering either the inhibitor of indoleamine-2,3-dioxygenase or the additional therapeutic agent alone.

39. The method of claim 38 wherein the additional therapeutic agent is selected from the group consisting of an antiviral agent, an antibiotic, an antimicrobial agent, a cytokine, and a vaccine.

40. The method of claim 38 wherein the measurement of response to treatment is selected from the group consisting of reduction in viral load, increase in $CD4^+$ T cell count, decrease in opportunistic infections, increased survival time, eradication of chronic infection, and combinations thereof.

41. A method of treating a subject receiving a bone marrow transplant or peripheral blood stem cell transplant comprising administering an inhibitor of indoleamine-2,3-dioxygenase.

42. The method of claim 41 wherein the inhibitor of indoleamine-2,3-dioxygenase is administered in an amount effective to increase the delayed type hypersensitivity reaction to tumor antigen, delay the time to relapse of post-transplant malignancy, increase relapse free survival time post-transplant, and/or increase long-term post-transplant survival

43. The method of 41 wherein the inhibitor of indoleamine-2,3-dioxygenase is administered prior to full hematopoetic reconstitution.